



WIN 25 2002

Under the Papery
Control number

PTO/SB/08A (10-01)

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
is required to respond to a collection of information unless it contains a valid OMB

Under the Paper

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 6

Complete if Known

Application Number 09/516,493

Filing Date March 1, 2000

First Named Inventor Maureen J. Charron

Art Unit 1633

Examiner Name S. Kaushal, Ph.D.

~~RECEIVED~~

08 2002

TECH CENTER 1600/2900

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. 1	Document Number	Publication Date	Name of Patentee or	Pages, Columns, Lines, Where
		Number - Kind Code ² (if known)	MM-DD-YYYY	Applicant of Cited Document	Relevant Passages or Relevant Figures Appear
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



PTO/SB/08B (10-01)
Approved for use through 10/31/2002, OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

2

of

6

Complete if Known

Application Number	09/516,493
Filing Date	March 1, 2000
First Named Inventor	Maureen J. Charron
Group Art Unit	1633
Examiner Name	S. Kaushal, Ph.D.
Attorney Docket Number	96700/613

RECEIVED

JU 08 2002

TECH CENTER 1600/2900

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
SK	1	AUSUBEL et al., Short Protocols in Molecular Biology, Third Edition, pp. 16-3 - 16-5, 16-58 - 16-62, 1995	
SK	2	BRUNING, et al., A muscle-specific insulin receptor knockout exhibits features of the metabolic syndrome of NIDDM without altering glucose tolerance. Mol Cell, 2:559-69, 1998	1
SK	3	CALDERHEAD et al., Insulin regulation of the two glucose transporters in 3T3-L1 adipocytes. J Biol Chem, 265:13800-08, 1990	1
SK	4	CARTEE, et al., Stimulation of glucose transport in skeletal muscle by hypoxia. J Appl Physiol, 70:1593-1600, 1991	
SK	5	CHAN and EXTON, A rapid method of the determination of glycogen content and radioactivity in small quantities of tissue or isolated hepatocytes. Anal Biochem, 71:96-105, 1976	1
SK	6	CHANG, et al., Overexpression of hexokinase II in transgenic mice. J Biol Chem, 271:14834-39, 1996	1
SK	7	CUSHMAN and SALANS, Determinations of adipose cell size and number in suspensions of isolated rat and human adipose cells. J Lipid Res, 19:269-73, 1978	
SK	8	DEVASKAR and MUECKLER, The mammalian glucose transporters. Pediatr Res, 31:1-13, 1992	1
SK	9	DOEGE et al., GLUT8, a novel member of the sugar transport facilitator family with glucose transport activity. J Biol Chem, 275:16275-80, 2000	1
SK	10	DOUEN et al., Exercise Induces Recruitment of the "Insulin-responsive glucose transporter. J Biol Chem, 265:13427-30, 1990	
SK	11	FOLEY, Rationale and application of fatty acid oxidation inhibitors in treatment of diabetes mellitus. Diabetes Care, 15:773-84, 1992	

Examiner
Signature

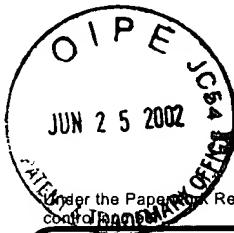
Date
Considered

8/19/12

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 3 of 6

Complete if Known

RECEIVED

PTO/SB/08B (10-01)
Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Number 09/516,493
Filing Date March 1, 2000
First Named Inventor Maureen J. Charron
Group Art Unit 1633
Examiner Name S. Kaushal, Ph.D.

Attorney Docket Number 96700/613

JUL 08 2002

TECH CENTER 1600/2900

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
SC	12	FROEHNER et al., The blood-nerve barrier is rich in glucose transporter. J Neurocytol, 17:173-178, 1988	
SC	13	GARCIA DE HERREROS and BIRNBAUM, The acquisition of increased insulin-responsive hexose transport in 3T3- L1 adipocytes correlates with expression of a novel transporter gene. J Biol Chem, 264:19994-99, 1989	
SC	14	GUMÁ et al., Insulin induces translocation of GLUT-4 glucose transporters in human skeletal muscle. Am J Physiol, 268:E613-E622, 1995	
SC	15	HANSEN, et al., Suitability of 2-deoxyglucose for in vitro measurement of glucose transport activity in skeletal muscle. J Appl Physiol, 76:979-85, 1994	
SC	16	HELLWIG, et al., Localization of the binding domain of the inhibitory ligand forskolin in the glucose transporter GLUT-4 by photolabeling, proteolytic cleavage and a site-specific antiserum. Biochim Biophys Acta, 1111:178-84, 1992	
SC	17	HEYDRICK, et al., Early alteration of insulin stimulation of PI 3-kinase in muscle and adipocyte from gold thioglucose obese mice. Am J Physiol, 268:E604-12, 1995	
SC	18	HIRSHMAN et al., Identification of an intracellular pool of glucose transporters from basal and insulin-stimulated rat skeletal muscle. J Biol Chem, 265:987-91, 1990	
SC	19	HOLLOSZY and BOOTH, Biochemical Adaptions to endurance exercise in muscle. Annu Rev Physiol, 38:273-91, 1976	
SC	20	HOLMAN, et al., Cell surface labeling of glucose transporter isoform GLUT4 by bis-mannose photolabel. J Biol Chem, 265:18172-79, 1990	
SC	21	HURLEY et al., Muscle triglyceride utilization during exercise: effect of training. J Appl Physiol, 60:562-67, 1986	
SC	22	IBBERSON et al., GLUTX1, a novel mammalian glucose transporter expressed in central nervous system and insulin-sensitive tissues. The Journal of Biological Chemistry, 275:4607-12, 2000	

Examiner
Signature

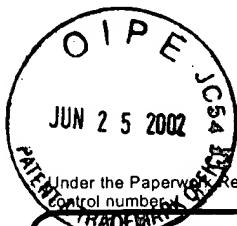
Date
Considered

8/19/02

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PTO/SB/08B (10-01)

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 4 of 6

Complete if Known

Application Number	09/516,493
Filing Date	March 1, 2000
First Named Inventor	Maureen J. Charron
Group Art Unit	1633
Examiner Name	S. Kaushal, Ph.D.
Attorney Docket Number	96700/613

RECEIVED

JUL 08 2002

TECH CENTER 1600/2900

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

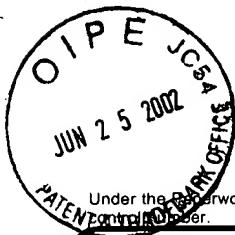
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
SK	23	JENKINS et al., Effects of nonesterified fatty acid availability on tissue-specific glucose utilization in rats in vivo. J Clin Invest., 82:293-99, 1988	
SK	24	JOOST et al., Structure-function relationship of glucose transporters catalyzing facilitated diffusion. Exp Clin Endocrinol, 102:434-38, 1994	1
SK	25	KAHN, Glucose transport: pivotal step in insulin action. Diabetes, 45:1644-54, 1996.	1
SK	26	KAMOHARA et al. Acute stimulation of glucose metabolism in mice by leptin treatment. Nature, 389:374-77, 1997	1
SK	27	KATZ, et al., Cardiac and adipose tissue abnormalities but not diabetes in mice deficient in GLUT4. Nature, 377:151-55, 1995	
SK	28	KLIP et al., Insulin-induced translocation of glucose transporters in rat hindlimb muscles. FEBS letters, 224:224-30, 1987	1
SK	29	LEE et al., Comparative expressed-sequence-tag analysis or differential gene expression profiles in PC-12 cells before and after nerve growth factor treatment. Proc. Natl. Acad. Sci USA, 92:8303-07, 1995	1
SK	30	MASSILLON et al., Quantitation of hepatic glucose fluxes and pathways of hepatic glycogen synthesis in conscious mice. Am J Physiol, 269:E1037-E1043, 1995	
SK	31	MURAKAMI et al., Enzymatic and genetic adaption of soleus muscle mitochondria to physical training in rats. Am J Physiol, 267:E388-E395, 1994	1
SK	32	NAKATANI et al., Effect of endurance exercise training on muscle glycogen supercompensation in rats. J Appl Physiol, 82:711-15, 1997	1
SK	33	OAKES et al., A new antidiabetic agent, BRL 49653, reduces lipid availability and improves insulin action and glucoregulation in the rat. Diabetes, 43:1203-10, 1994	✓

Examiner Signature		Date Considered	8/19/02
--------------------	--	-----------------	---------

¹EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

²Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PTO/SB/08B (10-01)

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

5

of

6

Complete if Known

Application Number	09/516,493
Filing Date	March 1, 2000
First Named Inventor	Maureen J. Charron
Group Art Unit	1633
Examiner Name	S. Kaushal, Ph.D.

Attorney Docket Number 96700/613

RECEIVED

JUL 08 2002

TECH CENTER 1600/2900

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.†	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
SJ	34	OKUNO et al., Acute effect of troglitazone on glucose metabolism in the absence or presence of insulin in perfused rat hindlimb. Metabolism, 46:716-21, 1997	
SJ	35	OLSON and PESSIN, Structure, function, and regulation of the mammalian facilitative glucose transporter gene family. Annu Rev Nutr, 16:235-56, 1996	
SJ	36	OZCAN et al., Two glucose transporters in <i>Saccharomyces cerevisiae</i> are glucose sensors that generate a signal for induction of gene expression. Proc Natl Acad Sci U S A, 93:12428-32, 1996	
SJ	37	OZCAN et al., Glucose sensing and signaling by two glucose receptors in the yeast <i>Saccharomyces cerevisiae</i> , EMBO J, 17:2566-73, 1998	
SJ	38	POSTIC et al., The effects of hyperinsulinemia and hyperglycemia on GLUT4 and hexokinase II mRNA and protein in rat skeletal muscle and adipose tissue. Diabetes, 42:922-929, 1993	
SJ	39	RANDLE et al., The glucose fatty-acid cycle its role in insulin sensitivity and the metabolic disturbances of diabetes mellitus. Lancet, 1:785-89, 1963	
SJ	40	ROMIJN et al., Regulation of endogenous fat and carbohydrate metabolism in relation to exercise intensity and duration. Am J Physiol, 265:E380-91, 1993	
SJ	41	SCHURMANN et al., Glucose transport activity and photolabeling with 3-[125I]iodo-4-azidophenethylamido-7-O-succinyldeacetyl (IAPS)-forskolin of two mutants at tryptophan-388 and -412 of the glucose transporter GLUT1: dissociation of the binding domains of forskolin and glucose. Biochem J, 290:497-501, 1993	
SJ	42	SHEPHERD et al., Adipose cell hyperplasia and enhanced glucose disposal in transgenic mice overexpressing GLUT4 selectively in adipose tissue. J Biol Chem, 268:22243-46, 1993	✓
SJ	43	STENBIT et al., Diverse effects of GLUT4 ablation on glucose uptake and glycogen synthesis in red and white skeletal muscle. J Clin Invest, 98:629-34, 1996	✓
SJ	44	STENBIT et al., GLUT4 heterozygous knockout mice develop muscle insulin resistance and diabetes. Nature Med, 3:1096-1101, 1997	✓

Examiner
Signature

Submitted

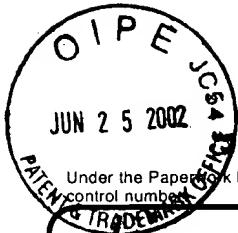
Date
Considered

8/19/02

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

† Applicant's unique citation designation number (optional). ‡ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



JUN 25 2002

PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
will respond to a collection of information unless it contains a valid OMB

Under the Paper
control number

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 6 of 6

Complete if Known

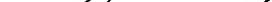
<u>Application Number</u>	09/516,493
<u>Filing Date</u>	March 1, 2000
<u>First Named Inventor</u>	Maureen J. Charro
Group Art Unit	1633
Examiner Name	S. Kaushal, Ph.D.
Attorney Docket Number	96700/613

RECEIVED

8 2002

TECH CENTER 1600/2900

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Signature		Date Considered	8/19/22
-----------------------	---	--------------------	---------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.